beogram 3000

type 5211

SERVICE MANUAL

Acoustical 3100

BANG & OLUFSEN A/S
STRUER-DENMARK
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TECHNICAL DATA FOR BEOGRAM 3000, TYPE 5211

DIMENSIONS AND WEIGHT

Dimensions: 425 mm wide, 160 mm high, 166 mm high with dustcover, 365 mm deep.
Weight: Approx. 8,5 kg with dustcover and approx. 10 kg in original packing.

POWER SUPPLY

Voltage: 110-125-140-160-220 and 240 volts AC.
Frequency: 50 c/s.
Main current consumption: 27 watts.

MOVEMENT

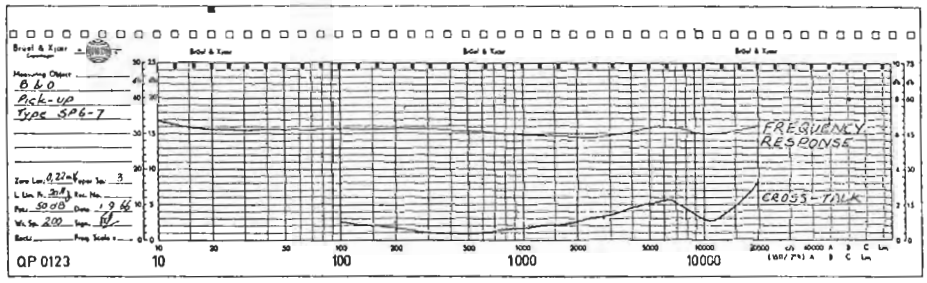
Speeds: 33 1/3 and 45 r.p.m. adjustable over a range of 12% peak to peak.
Starting time: Approx. 2 sec.
Speed selection: Mechanically with selector fork and locking device.
Drive: Direct belt without idlers.
Fine adjustment: Interlinked voltage regulation with potentiometer, pre-adjusting resistor and capacitor.
Rumble: 45 dB below reference voltage from pick-up at 14 cm/sec. equalisation NARTB standard.
Wow and flutter: Approx. 0,17% peak to peak.
Motor: PABST asynchronic motor type KLZ 14.50-6-660 D 220 V.
Turntable: Anti-magnetic, diam. 300 mm, weight 1,6 kg.

PICK-UP

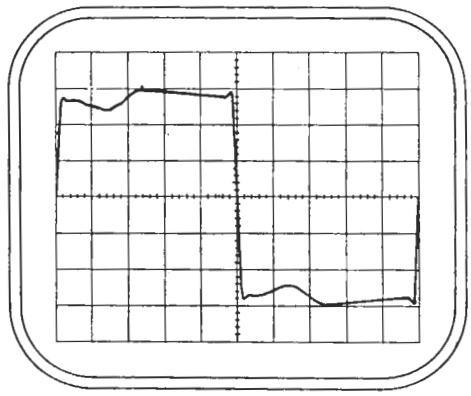
Pick-up arm: Type ST/L 15°.
Pick-up lift: Type PL with hydraulic damping.
Pick-up type: SP 7, (see page 2).

PICK-UP UNIT SP 7, TYPE 5405

Channel Balance: Within 2 dB.
Channel Separation: Approx. 28 dB at 500 Hz.
Compliance: 12-15 $\times 10^{-6}$ cm/dyne.
Frequency Response: 20-20000 Hz ±2.5 dB.
Output Voltage: 7 mV for 5 cm/sec. at 1000 Hz.
Recommended Load: 47 KΩ.
Recommended stylus pressure: 2 grammes.
Tip radius: 15µ (6 mils) spherical.
Vertical Tracking Angle: 15°.
Weight of cartridge: 9 grammes.

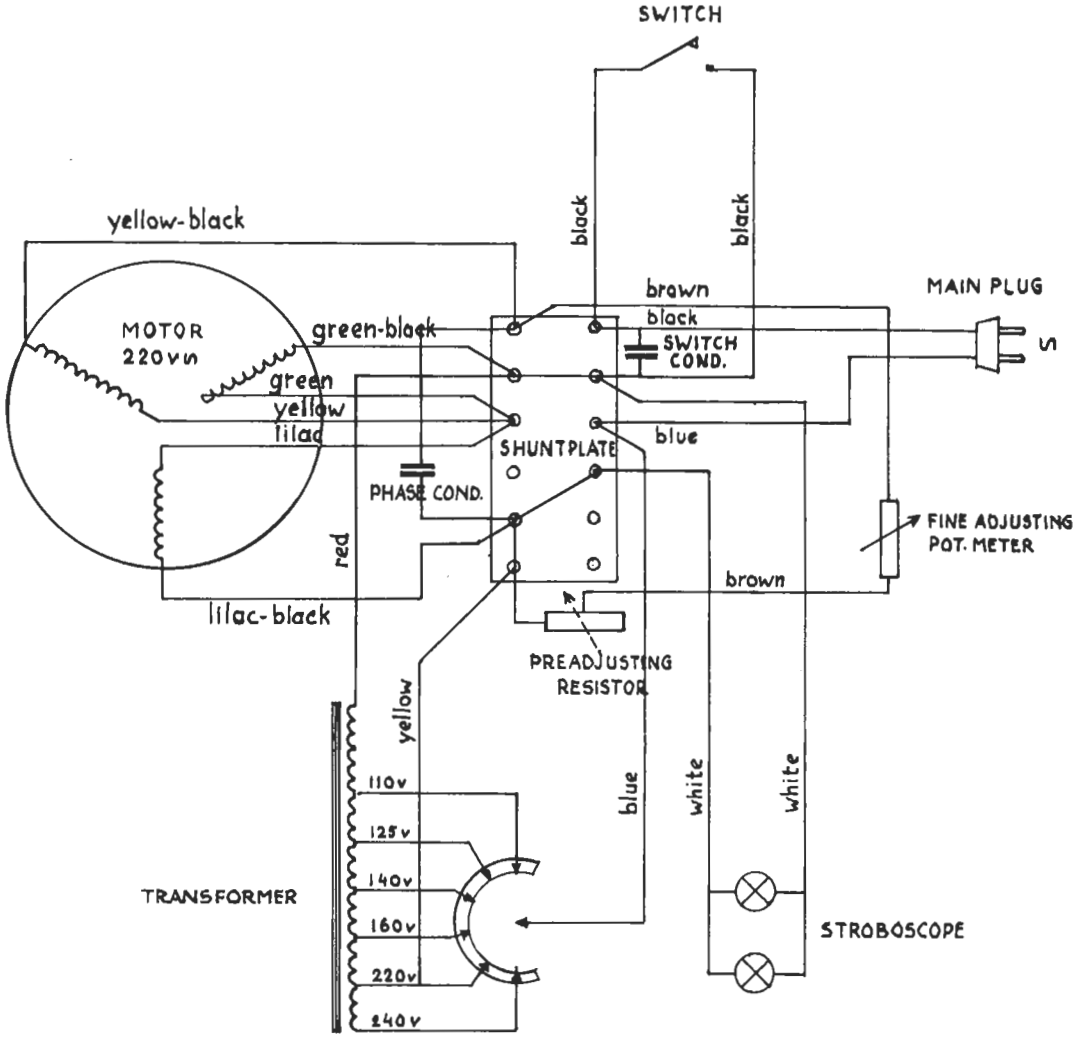


Frequency response and crosstalk. BRÜEL & KJÆR QR 2009 frequency test record.



1000 c/s square wave. CBS STR 111 test record.

WIRING DIAGRAM

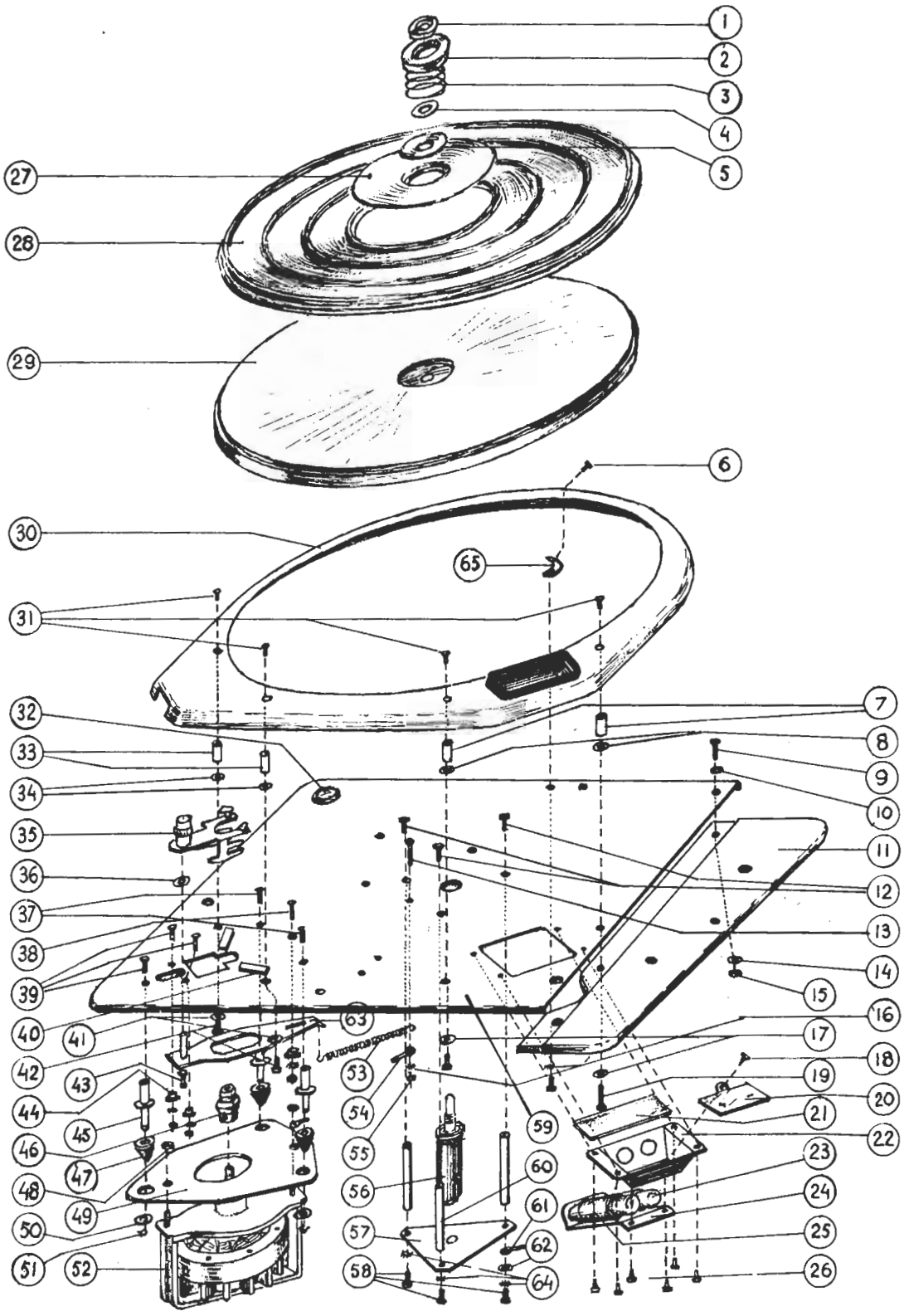


PARTS LIST FOR BEOGRAM 3000, TYPE 5211

1	Milled nut	2389007
2	Centre ring	2622075
3	Spring for centre ring	2812007
4	Washer	2622076
5	Closing disk	2622077
6	Screw, M 2 × 4 BH	2034905
7	Mounting tube	2934006
8	Washer	2622078
9	Screw, M 3 × 15 CH	2038252
10	Washer	2622078
11	Extension plate ST/L	3120139
12	Screw, M 3 × 10 CH	2038215
13	Screw, M 3 × 15 CH	2038252
14	Washer	2622079
15	Nut, M 3 × 5 1/2 hex.	2380011
16	Lockwasher	2625009
17	Washer	2622079
18	Selftapping screw, 6 × 3 Z PH	2013902
19	Screw, M 3 × 15 CH	2038252
20	Mirror for stroboscope	3199001
21	Glass for stroboscope	3199002
22	Box for stroboscope	2548023
*23	Neonbulb, 220 V	8230019
24	Bracket	2548024
25	Fitting with nut	3152013
26	Selftapping screw	2013902
27	Centre plate	2726006
28	Rubbermat	2726007
29	Turntable 50 c/sec.	2726008
30	Covering frame assy.	3164031
31	Screw, M 2 × 4 PH	2034104
32	Levelling device	3370007
33	Mounting tube	2934006
34	Washer	2622078
35	Selector fork assy	2854003
36	Washer pertinax	2622080
37	Screw, M 3 × 8 FH	2038039
38	Screw, M 3 × 8 FH	2038039
39	Screw, M 3 × 8 PH	2038102
40	Guiding bar	3015004
41	Washer	2622079
42	Screw, M 3 × 8 CH	2038211
43	Screw, M 3 × 8 CH	2038211
45	Suspension support	2934007
*46	Pulley 50 c/sec.	2724012
*47	Suspension grommet	2935001
48	Nut, M 4 hex.	2380016
49	Motorbracket	2548025
50	Washer	2622081

PARTS marked with an * are preferred spare parts

Parts List to be Continued on Page 6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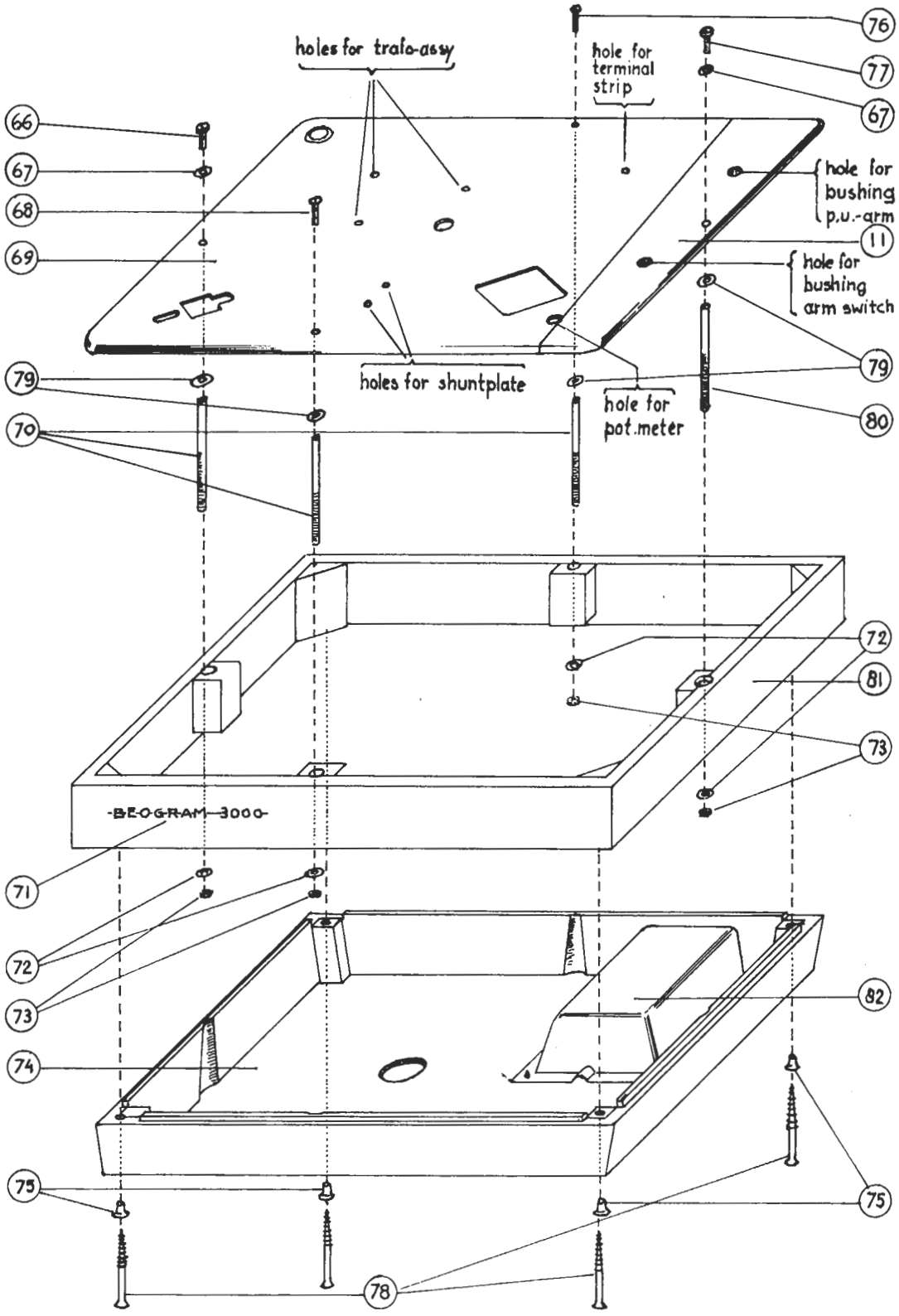
Parts List Continued from Page 4

51	Locking ring 3-4	2390021
52	Motor assy	8401005
53	Spring	2810007
54	Lug	7530035
55	Nut, 3 × 5 1/2 hex.	2380011
56	Axle and bearing assy	2905014
57	Bearing bracket	3150001
58	Screw, M 3 × 10 CH	2038215
59	Mountingplate hewed type	3114004
60	Suspension column	2934008
61	Lug	7530035
62	Washer 1/8"	2622082
63	Selector guiding plate	2548026
64	Lockwasher	2625009
65	Clamp	2538003
66	Screw, M 4 × 12 CH	2042243
67	Washer	2622081
68	Screw, M 4 × 12 FH	2042018
69	see pos. 59	
70	Dowel L 82	2311001
71	Nameplate	3182021
72	Washer 1/4"	2622083
73	Nut, M 6 hex.	2380065
74	Socket base	3400060
75	Inlet washer	2623012
76	Screw, M 4 × 12 FH	2042018
77	Screw, M 4 × 12 CH	2042243
78	Woodscrew	2080900
79	Washer	2622084
80	Dowel L 75	2311001
81	Socket top	3400061
82	Wire box	3131013


holes for trafo-assy
hole for terminal strip
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hole for bushing p.u.-arm
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hole for bushing arm switch
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holes for shuntplate
hole for pot.meter
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BEOGRAM 3000
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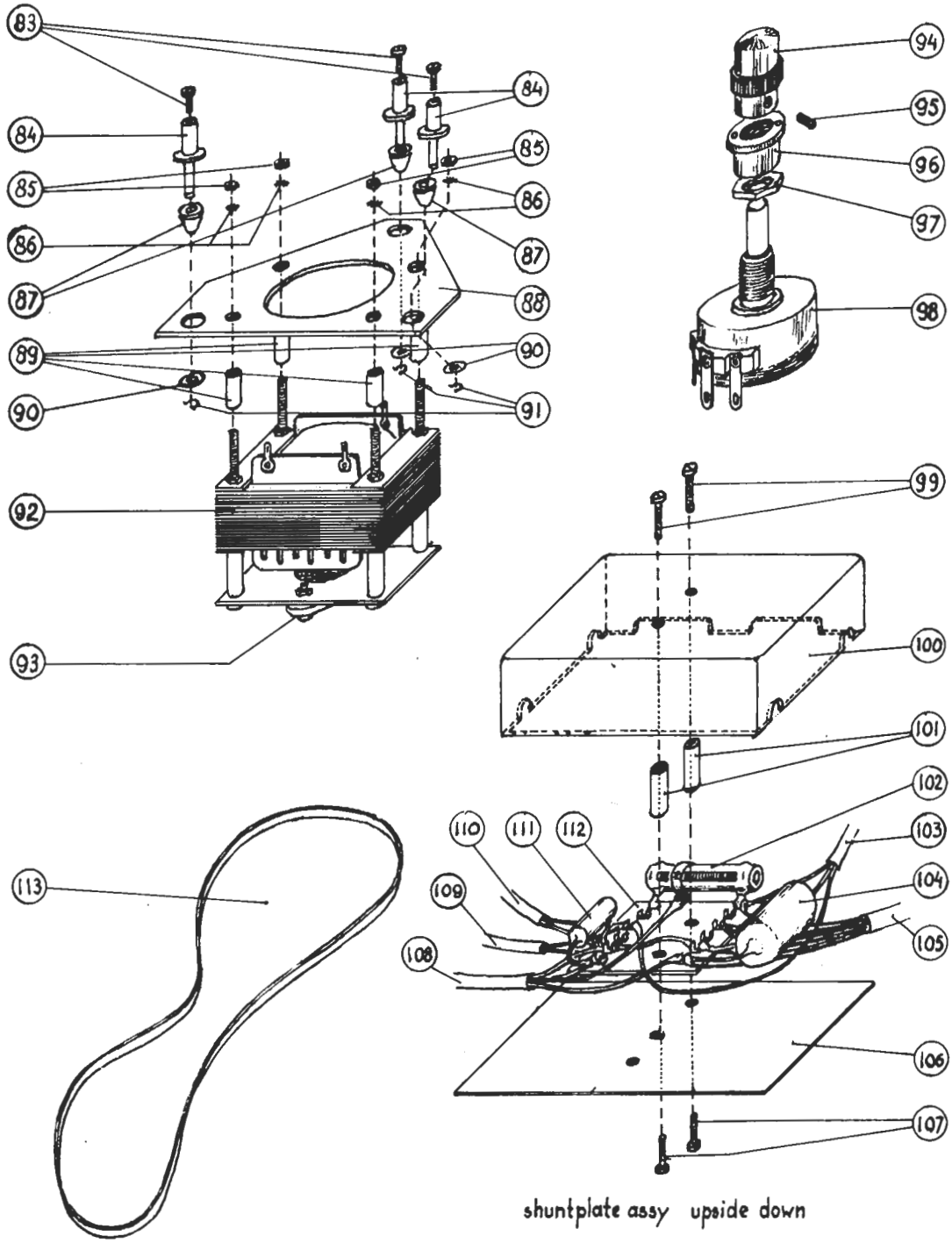
83	Screw, M 3 × 8 FH	2038039
84	Suspension support	2934007
85	Nut, M 3 × 5 1/2 hex.	2380011
86	Lock washer	2625009
87	Suspension grommet	2935001
88	Transformer bracket	2548027
89	Bushing	2576005
90	Washer	2622081
91	Locking ring 3-4	2390091
92	Transformer assy	8013050
93	Tension selector in trafo assy	7401019
* 94	Knob	2770059
95	Grub screw, M 3 × 4	2072701
96	Cap nut	2934009
97	Nut, M 10	2380050
98	Potentiometer, 10 KΩ Preh WW	5300045
99	Screw, M 3 × 10 CH	2038215
100	Shuntplate cover	3164032
101	Mounting tubes	2950013
102	Resistor, 2,5 KΩ 5 W	5105031
104	Condenser, 0,5 µF 500 V	4114018
106	Insulating plate	3164033
107	Screw, M 3 × 8 FH	2038039

PARTS marked with an * are preferred spare parts



shuntplate assy upside down

111	Condenser, 4700 pF 1000 V	4105001
112	Shuntplate	3170032
*113	Belt	2732002
114	Switch column	2574005
115	Rod	2992008
116	Bushing	0412308
117	Washer	2622035
118	Nut	2380030
119	Plug with lead	0982100
*120	Pick-up cartridge SP 7	8905405
*	Stylus assy for SP 7	8905412
*	Stylus assy elliptic for SP 7	8905414
121	Cap	3302038
122	Switch assy	7459001
123	Bushing	0412309
124	Counterpoise	0588024
125	Pick-up arm	0842134
126	Ring	0379029
127	Spring	0330266
128	Shaft	0340260
129	Gyrobearing	0940003
130	Mass lug	0596029
131	Screw	0100016
132	Thumb grip	0462175
133	Pick-up lift PL assy	0702014
134	Terminalstrip	3170033
135	Nut, M 3 × 5 1/2 hex.	2380011
136	Lockwasher	2625009
137	Screw, M 3 × 8 FH	2038039
138	Bushing	0412309
139	Washer	2622035
140	Nut	2380030

PARTS NOT IMAGED

	Dustcover	3164034
*	Maincord complete	6270048
*	Pick-up cord complete, grey	6270049
	Packing box inner part	3391140
	Packing box outer part	3391141
	Cornerpiece synpropac	3397036
	Filling plate for outer box	3391142
	Accessories Box with foampieces	3391143
29	Turntable, 60 c/sec.	2726010
44	Guide bush	2576007
46	Pulley, 60 c/sec.	2724016

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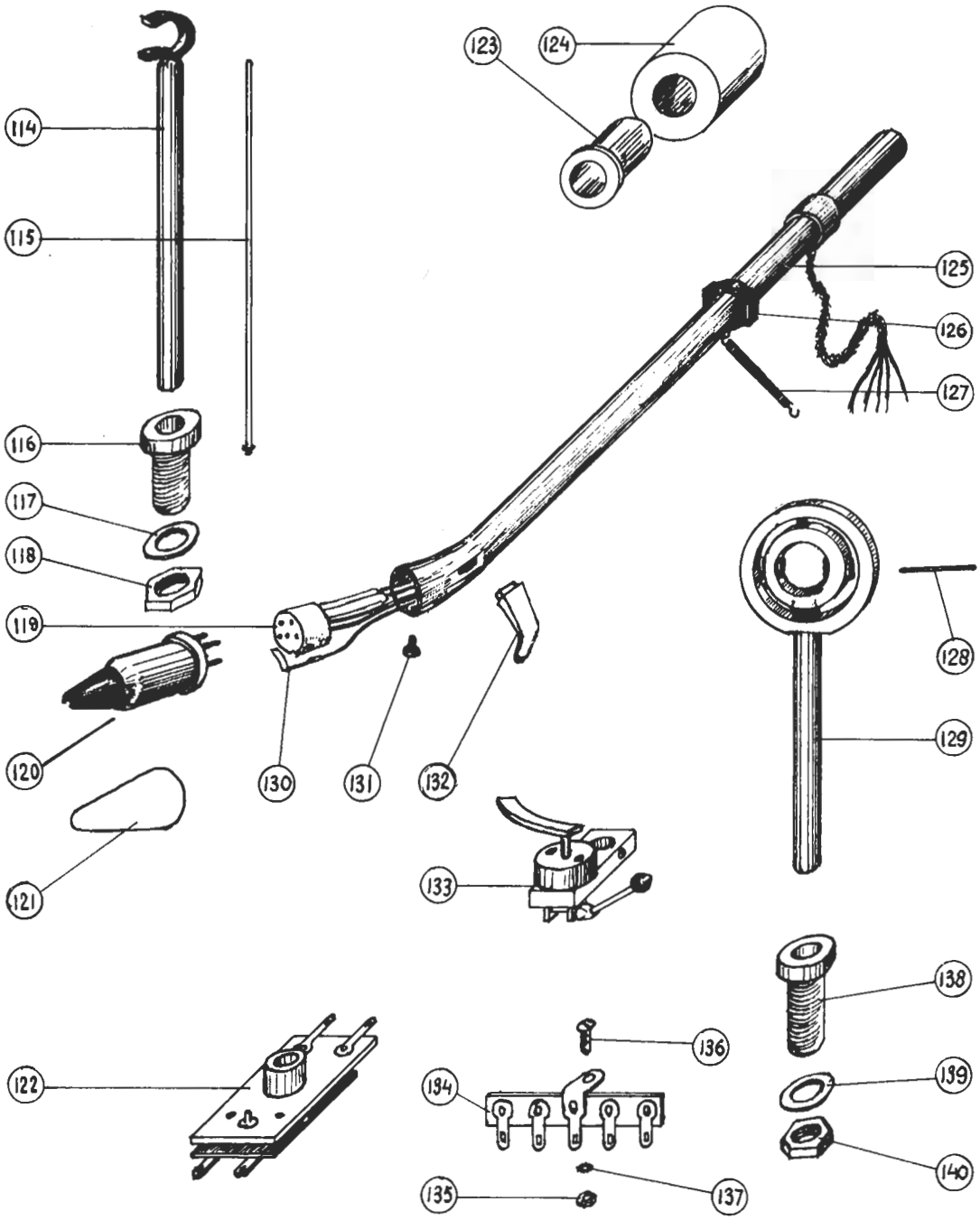
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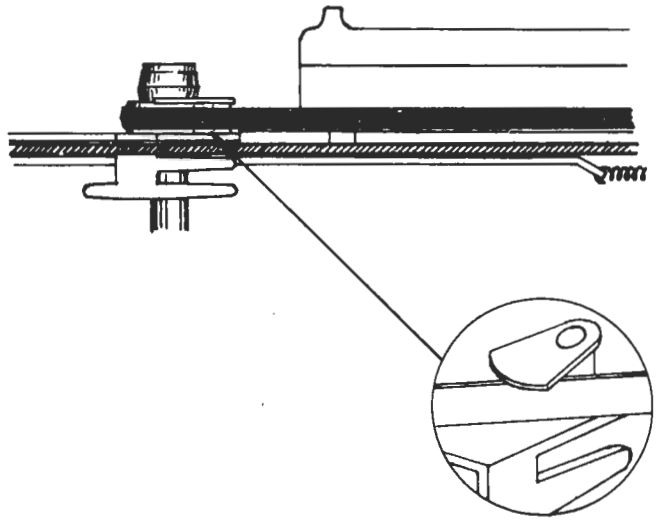
ADJUSTMENT

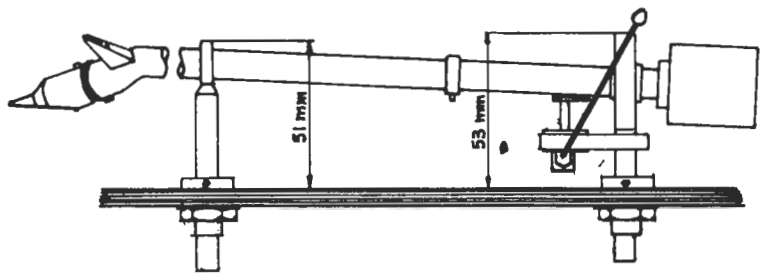
Motor Pulley and Belt

Replacing the belt is operated by dismounting screws pos. no. 31 and loosening screws pos.no.42.To prevent damage of the belt it is necessary to dismount the covering frame.

Height of the motor pulley on the shaft is adjusted working from free travel of the belt from the guiding pieces pos. no. 40 and the selector fork pos. no. 63.



Height of the gyrobearing and the pick-up support is adjusted as shown in the sketch below.



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